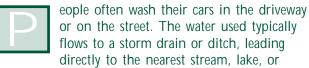
WHAT CAN YOU DO?



groundwater supply. Soaps and detergents, even biodegradable ones, can have immediate and long-term effects on fish, frogs, and insects living in waterbodies. The grime washed off the car also contains pollutants that can harm fish and wildlife. So...

- Don't wash your car if rain is expected.
- Consider not washing your car at home. Take it to a commercial car wash that has a recycle system and discharges wastewater into the sanitary sewer for treatment.
- Purchase products that allow you to clean a vehicle without water. (They were developed for areas where water is scarce, so you can save water and reduce pollution at the same time.)
- ☐ Wash your car directly on your lawn or make sure the water you used drains to a vegetated area where the water and soap can soak into the ground, trapping pollutants in the soil instead of running off into a water body.
- If you wash your vehicle on a driveway or in the street, be sure to sweep the area to clean up dirt, leaves, trash, and materials that may flow into the storm drain with your wash water. This helps reduce maintenance costs and protects water quality as well.

- If you do use soaps and detergents, select a product without phosphates.
- Use a nozzle on your hose to save water.

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e "weekend mechanics" enjoy the cost savings from changing the oil or antifreeze, topping off the battery with water, and generally making our car perform its

best ourselves. The following will help minimize pollution that could result when you service your car.

- Use care in draining and collecting antifreeze to prevent accidental spills. Use pans to catch spills. (Spilled antifreeze can be deadly to cats, dogs, and other pets.
- Service your cars on concrete, asphalt or over a plastic tarp for easy clean up of spills.
- □ Recycle all oils, antifreeze, solvents, and batteries. Many local car parts dealers and gas stations accept used oil. Used oil can also be recycled with your curbside recycling. Make sure oil is placed in a clean plastic milk

jug with a tight screwtop lid.

Never dump automotive fluids or solvents on the ground,



in a storm drain, street gutter or water body. Eventually, they will make their way to local surface waters or groundwater, including the water we drink.

Do not mix wastes. For example, chlorinated solvents in some carburetor cleaners can contaminate a huge tank of used oil, making it unsuitable for recycling. Put waste in separate containers that are labeled and stored properly. (See Section on

- "Hazardous Waste" for more information about proper storage.)
- To dispose of oil filters, punch a hole in the top and let them drain for 24 hours. A large funnel in the top of your oil storage container will come in handy. After draining, wrap the filter in plastic and put it with your regular garbage.
- ☐ Keep a bag of kitty litter on hand to absorb spills. Sprinkle a thick layer on the spill to absorb it, then put the used litter in a plastic bag and dispose of it in your garbage. Take care not to leave kitty litter out in the rain; it will form a sticky goo that is hard to clean up.
- If you are doing body work outside, be sure to use a tarp to catch material resulting from grinding, sanding, and painting. Dispose of this waste by double bagging it in plastic and putting it in your garbage.



omposting is an earth-friendly activity as long as some common sense rules are followed. If you choose to compost, you might consider the following:

Home compost piles should be located on an unpaved area where runoff can soak into the ground or be filtered by grass and other vegetation. Compost piles



should be located in an area of your yard that is not prone to water ponding during storms and should be at least 25 feet away from wetlands, streams, lakes, and other drainage paths.

- Do not put meat, dairy products, hazardous waste, or non-compostable waste in the pile.
- Cover the compost pile or compost in a container for two reasons:
 - To keep stormwater from washing nutrients into waterways, and
 - To keep excess water from cooling down the pile, which will slow down the rate of decomposition.
- Build bins of wood, chicken wire, or fencing material to contain compost so it can't be washed away. Call WSU Master Composters/Recyclers at 254-8436 to get free compost bin designs and materials lists.

Build a small ridge of soil around your compost pile as a means of preventing nutrient-rich compost drainage from reaching storm water paths.

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his section deals with the normal yard maintenance activities we perform at home. Overwatering, over fertilizing, improper pesticide or herbicide application, and improper disposal of trimmings and clippings can all contribute to water pollution problems.

The suggestions below will help reduce or prevent pollutant runoff.

- Practice organic gardening to eliminate the need to use pesticides and fertilizers. Contact Clark County WSU Cooperative Extension Master Gardener Program at 254-8436 for information on earthfriendly gardening.
- ☐ Save water and prevent pollution problems by not over-watering. Lawns and gardens typically need the equivalent of 1" of rainfall per week. You can check the amount of water by putting empty tuna or cat food cans out where you're sprinkling to measure the water depth. Over watering can wash nutrients into the nearest water body.
- ☐ Follow the manufacturer's directions precisely for mixing and applying herbicides, fungicides, and insecticides. Use them sparingly. Never apply when it's windy or rain is expected. Never apply over water,

within 100 feet of a well or adjacent to streams or other waterways. Triple-rinse empty containers and use the rinse water to complete the application or save it for your next spray. Double-bag empty containers and put in the garbage.



Follow manufacturer's directions when applying fertilizers and avoid leaving fertilizer on drivewaysand sidewalks where it can wash off. Never apply fertilizers over water or adjacent to ditches, streams, or other water bodies. Remember, organic fertilizers have a slow release of nitrogen and, thus, less potential to pollute than synthetic fertilizers. There are also slow release fertilizers that tend to add more nitrogen when the grass needs it.
When buying fertilizers, pesticides, or other chemicals, buy only the amount you need for your project. Share the leftovers with friends or neighbors. Safely dispose of any leftovers at the two household hazardous waste disposal stations in Clark County. Disposal is free.
Never dispose of grass clippings or other vegetation in or near storm drains, streams, lakes or wetlands.
Consider planting a vegetated buffer zone adjacent to streams or other water bodies on your property. Call the Clark County Conservation District at 696-7631 for advice and assistance in developing a planting plan.
Store all fertilizers and pesticides in a covered location. Rain can wash the labels off bottles and turn a bag of fertilizer into a solid lump, or it can disintegrate and wash into storm drains and water bodies.
Compost all yard clippings, use a mulching lawn mower, use clippings as mulch to save water and keep down weeds in your garden, or leave clippings on the lawn. See "Composting Section" in this manual for additional info.
Practice organic gardening to eliminate the need to use pesticides and fertilizers. Contact Clark County WSU Cooperative Extension Master Gardener Program at 254-8436 for additional information on earthfriendly gardening.
Pull weeds instead of spraying; it's healthy exercise too. If you must spray, use the least toxic formulations that will get the job done. The folks in the Master Gardener Program listed on above can help advise you on which spray to use.
Work fertilizers into the soil instead of letting them lie on the ground surface exposed to the next rain storm.

For curbside recycling of hard waste in Vancouver, Battle Ground, and urban Clark County, call Waste Management at 737-2425. For the Camas/Washougal area, call Waste Connections at 892-5370.

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	mproper storage of food and solid waste at home can not only cause water pollution problems but can attract neighborhood pets
can help	and vermin. The recommendations below keep your home a clean and healthy place.

- ☐ Waste containers kept outside must have lids.
- Leaking waste containers must be replaced.
- Store solid waste containers under cover, if possible, or on grassy areas to prevent any leakage from being washed into the street.
- Inspect the storage area regularly to pick up loose scraps of material and dispose of them properly.
- ☐ Compost biodegradable materials, such as grass clippings and vegetable scraps, instead of throwing them away. Your flower beds will flourish with the finished compost. Call WSU Master Composters/Recyclers, at 254-8436, for more information on composting. (See the section on composting for practices relating to that activity.)
- Worm composting is a fun alternative to traditional composting. The worms'll do all the work if you keep a small worm composting box just outside the kitchen. For more information on composting with worms, call the WSU Master Composters/Recyclers at 254-8436.



ven though we swim in it, pool water is still harmful to streams or storm drains. Pool water is treated to kill microbes that can make us sick or cause skin rashes. The

nutrients, pH, and chlorine in pool water can also adversely affect fish and wildlife in waterbodies. Here's how to ensure the cleanliness of your pool and protect the environment.

- Pool and spa water must be dechlorinated before emptying into a ditch, on the ground, or into the storm drainage system. Contact your pool chemical supplier for the neutralizing chemicals you'll need. The rate of flow into a ditch or drainage system must be regulated so erosion, surcharging, or flooding doesn't result. Water discharged to the ground must not cross property lines or produce runoff. You may be able to discharge pool water to the sanitary sewer, if the pre-treatment unit of your sewer utility okays it.
- If pool or spa water cannot be dechlorinated, it must be discharged to the sanitary sewer. Prior to draining, your local sewer agency must be notified so they are aware of the volume of discharge and the potential effects of chlorine levels. A pool service company can help you determine the frequency of cleaning and backwash of filters.
- Hire a professional pool service company to collect all pool water for proper disposal. (Be sure and ask them where they'll dispose of it and the kinds of permits they have to do so.)
- Diatomaceous earth used in pool filters should not be discharged into surface waters, on the ground, or into storm drainage or septic systems. Dry it out as much as possible, bag it in plastic, and then dispose of it in the garbage.

AT CAN YOU DO?

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Dispose of old chlorine and pool chemicals at a hazardous waste facility. Never put leftover dry chloring in the garbage-- it if mixes with water, deadly gases or explosions may occur which can cause serious injuries.



ou'd be amazed how many hazardous materials we have on hand at home. Oil-based paints and stains, paint thinner, gasoline, charcoal starter fluid, cleaners, waxes,

pesticides, fingernail polish remover, and wood preservatives are just a few.

When these items are spill on the ground or into a storm drain, they can go directly into streams, lakes, or wetlands harming fish and wildlife. They also infiltrate into the ground and contaminate drinking water supplies. Similarly, contamination occurs from pouring hazardous products down a sink or toilet into a septic system or piped to a municipal sewer system. Many compounds will "pass through" the wastewater treatment plant and may contaminate receiving waters or harm the biological process used at the treatment plant, reducing overall treatment efficiency.

With so many types of hazardous products in Clark County homes, serious environmental harm could result if we don't use, store and dispose of them properly. Here are some ways to help keep these materials out of our soils, sediments and waters.

- Dispose of hazardous materials and their containers properly. Never dump products labeled as "poisonous", "corrosive", "caustic", "flammable", "inflammable", "volatile", "explosive" "danger", "warning", "caution" or "dangerous" outdoors, into a storm drain, sinks, toilets or drains. Call Clark County Environmental Services at 397-6118, ext. 4352, for information on disposal sites, methods, collection events, and alternative products.
- Check containers frequently for signs of leaks. If a container is rusty and looks like it may leak, place it in a secondary container (like a plastic bucket with kitty litter) to avoid a cleanup problem.

Store hazardous materials containers under cover and off the ground. Keep them out of the weather to avoid rusting, freezing, cracking, etc.
Hazardous materials should be stored out of childrens' reach in clearly labeled, unbreakable containers. Don't store in food and beverage containers.
Keep appropriate spill cleanup materials on hand. Kitty litter is good for many oil-based spills.
Ground cloths and drip pans should be used under any work outdoors which involves hazardous materials, such as oil-based paints, stains, rust removers, masonry cleaners, and others bearing label warnings, such as those outlined above.
Latex paint (not accepted in liquid form at the landfill) may be taken to a household hazardous waste site for recycling; or you can leave the can uncovered in a protected place until dry, then put it in the garbage. To quickly dry unused paint, just pour kitty litter in the can to absorb it. Once paint is dry, leave the lid off when you place it in the garbage.
Use less toxic products whenever possible. Contact the Hazardous Waste Hotline, 1-800-287-6429 or call the Washington Toxics Coalition at (206) 632-1545, for information on alternatives.
Move an activity involving a hazardous material indoors (with proper ventilation) out of the weather, if possible.
Follow manufacturers' directions in using all materials. Over-applying yard chemicals, for instance, can wash compounds into receiving water bodies. Never apply pesticides when rain is expected.
When hazardous materials are in use, place the container inside a tubor bucket to minimize spills.
Only buy as much as you need for the project and safely dispose of leftovers (in original containers with labels to identify the material). Use the free hazardous waste facilities or collection events for disposal.

For more information, contact Clark County Public Works, Environmental Services at 397-6118, ext. 4345

Household Hazardous Wastes and Disposal Methods



Pour small amounts down drain*



Put it in the trash



Recycle it

Take it to a hazardous waste collection facility

Kitchen

Aerosol cans (empty)

Aluminum cleaners

Ammonia based cleaners

Bug sprays

Drain cleaners

Floor care products

Furniture polish

Metal polish with solvent

Window cleaner

Oven cleaner (lye based)

Bathroom

Alcohol based lotions (aftershaves, perfumes)

Bathroom cleaners

Dipilatories

Disinfectants

(Bathroom continued)

Permanent lotions, hair relaxers

Medicine (expired)

Nail polish/remover (solidified)

Toilet, tub and tile cleaners

Garage

Antifreeze

Autobody repair products

Battery (lead, acid)

Brake fluid

Car wax solvent

Diesel fuel

Fuel oil

Gasoline

Kerosene

Metal polish with solvent

Motor Oil





^{*} Don't pour chemicals down the drain if you are connected to a septic system.

Household Hazardous Wastes and Disposal Methods



Pour small amounts down drain*



Put it in the trash



Recycle it

Take it to a hazardous waste collection facility

Garage Continued



Garden fertilizer



Other oil



Fungicide



Transmission fluid



Herbicide



Windshield washer solution



Insecticide
Weed killer



Workshop

Paintbrush cleaner w/solvent



Miscellaneous





Paintbrush cleaner w/ TSP



Cleaning solvents



Aerosol cans (empty)

Glue (solvent based)



Gum cleaning solvents



Glue (water-based)
Paint: latex (dried)



Car wax solvent



Paint: latex (wet)

Primer



Lighter fluid



Paint: oil based, auto, model



Household batteries



Paint thinner or stripper



Moth balls



Rust removed (w/phosphoric acid)



Photographic chemicals (mixed and property diluted)



Turpentine or varnish



Shoe polish



*Don't pour chemicals down the drain it you are connected to a septic system.

For more information, contact Clark County Public Works, Environmental Services at 397-6118, ext. 4345



unoff from home lawns and gardens flows into storm sewers or into roadside ditches which lead to Clark County's surface and groundwater. Runoff results from rainstorms and from lawn and garden watering

practices. Pollutant sources include: fertilizer, pesticides, soil eroding from bare areas, pet wastes, and oil or grease that may have leaked or spilled on to the ground, driveway or street.



Along with carry-

ing pollutants, runoff from yards, roofs, and paved areas increases erosion in streams, washes away wildlife habitat or smothers streambeds with mud.

The ways in which home landscapes are designed and maintained directly affects runoff and our water quality. Landscapes can be designed to retain water on-site, encourage infiltration, and even to "treat" some pollutants through small ponds and wetlands. Trees, shrubs, groundcovers, and other plantings can be selected with water quality protection in mind.

Reduce the amount of paved surfaces to increase the natural infiltration of stormwater into the ground and reduce the potential for pollutants to run off-site into storm drains or ditches.

When installing a new driveway or sidewalk, consider a gravel bed, bricks and flagstones, bricks or interlocking pavers, crushed shells or stone and bark chips. These porous surfaces encourage some

- Plant pest resistant, native plants and shrubs. This reduces maintenance for you and the need for additional fertilizers and pesticides, in addition to reducing the amount of watering needed during the summer months. Remove exotic and invasive plants which can destroy the natural diversity of an existing habitat.
- Retain or create vegetative buffer zones adjacent to creeks and drainageways.
- ☐ Landscape for wildlife. Healthy wildlife and clean water are interrelated. Many practices which help protect water quality also enhance wildlife habitat. Habitats which encourage birds, bees, butterflies, and microorganisms help to sustain natural systems with natural pollutant reduction and soil conservation functions. Landscapes which benefit wildlife also help improve watershed water retention.

To encourage wildlife, provide thefollowing:

Food - every species of wildlife has its own requirements

Water - ponds or puddles will work

Shelter - or cover

Space - every species has its own territorial needs

Vegetative edges - which encourage diversity

For more information on natural gardening, call Clark County Environmental Services at 397-6118, ex. 4352 or WSU Master Gardeners at 254-8436.

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ı ≷ any yard maintenance or small outdoor projects remove vegetation and expose bare soil to erosion. Preventing erosion is essential for protecting waterways and

maintaining the quality and productivity of soil. Erosion usually occurs when rainfall washes away topsoil. Eroded topsoil can then be carried into rivers, streams and lakes causing cloudy, muddy water. The "mud" in muddy water is sediment, a mix of soil components and particles of sand, silt, and clay, that can cover the bottom of streams and lakes, smothering bottom dwelling plants and animals and covering valuable fish spawning areas. Sediment can block sunlight for aquatic plants, clog the gills of fish, reduce the amount of dissolved oxygen in the water, and contain nutrients that cause excessive plant and algae growth.

Controlling Erosion

When landscaping or remodeling, cover small mounds of dirt with a tarp or other cover so that wind and rain don't carry the sediments to nearby water bodies. When a project exposes bare soil, help prevent erosion by using the following methods:

MULCHING: A two to three-inch layer of mature compost placed directly on top of the soil, will control erosion by covering soil and promoting plant growth. Compost-enriched soil can also help control disease and pest infestation in plants, minimize runoff, reduce evaporation, insulate the soil, and suppress weed growth.

Mulches can also include straw, wood chips, shredded bark and grass clippings.

Temporary seeding: Rapid-growing annual grasses or small grains can stabilize disturbed soils until the project is completed or permanent plantings.

Sod cover. Sod will permanently stabilize an area. Sod is especially useful for immediate cover on steep, critical areas and in areas unsuitable for seed.

Compost barrier berms: Berms are mounds of material used to trap a pollutant or sediment. In this case, the berm is made of compost. On steep slopes, compost berms at the top or bottom of slopes will slow the velocity of water and filter out some of the sediment.

SILT FENCE BALE BARRIER: A silt fence is a temporary sediment barrier made of filter fabric. As the name implies, the main use is to trap silt and sand. The fabric is placed around the lower part of the bare soil to trap sand and silt, but allow water through. The fabric is stretched and staked around the edge of the disturbed area. Burying the base of the silt fence keeps sediment from washing under it.

WHAT CAN YOU DO?

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ets and other animals (ducks, geese) in an urban environment can pollute our water when waste washes off yards, sidewalks, and streets during storms. Domestic farm

animal and pet waste can enter our streams from pastures, manure piles, and yards.

☐ Clean up after your pet. Pet waste left on sidewalks, streets or yards contain numerous pollutants such as nutrients



and bacteria. Discard your pet's waste by flushing it down the toilet or bagging it and throwing it in the trash.

- Wash your pet either in the house or on the lawn. Bathwater shouldn't enter the storm drain.
- Consider using non-toxic alternatives to flea and tick powder.
- Cover manure piles with a structure or plastic tarp to reduce runoff. Build a small ridge of vegetated soil around manure pile to prevent nutrient-rich manure drainage from reaching storm water paths.
- Compost stall bedding and manure. For information on composting, call the WSU Master Composter/Recyclers at 254-8436.

- Don't feed ducks or geese near a calm body of water. It is not healthy for the birds, and their droppings contribute bacteria and nutrients to the pond or stream.
- Consider planting grass in or around pens and kennel areas to act as a filter for runoff.
- Sweep and clean animal keeping areas weekly to collect and dispose of droppings, uneaten food, and other stray particles. Never hose down the area to a storm drain.

WHAT CAN YOU DO?

ome improvement projects require special care to prevent water quality problems. Paint use, paint removal, and driveway, walkway, and patio installation and repair are just some of the activities where the use of household hazardous materials used can negatively affect streams, aquatic organisms and surrounding

Painting/Paint Removal

wildlife.

- ☐ Water-based paints are generally less toxic than oil-based paints. Look for "latex", "low VOID paint", "solvent-free" or "clean up with water" on the label.
- Buy only what you are going to use.
- Don't use paints manufactured prior to 1977. They may contain toxic levels of lead. Take old or unwanted paint to a household hazardous waste collection site for disposal. Please call 397-6118x4352 for info on locations and times.
- After getting as much water-based paint off brushes and out of paint trays as possible, wash off the excess paint in an indoor sink rather than outdoors.
- Paint out oil-based paint brushes as much as possible and then use thinners and solvents. Dispose of excess paint and thinner at the household hazardous waste program. (See Section on Hazardous Wastes.)
- ☐ When they are thoroughly dry, empty paint cans, used brushes, rags and drop cloths may be disposed of in the garbage.

	Dispose of empty aerosol paint cans in the garbage, taking unwanted to collection.	
	When pressure-washing exterior house paint, keep wash water from discharging into a storm drain. Divert it onto grass and use a wet-vacuum to pick up paint chips.	
	Chemical paint stripping residue, including saturated rags, is a hazardous waste and should be taken to a household hazardous waste collection site.	
	Lead paint chips are a hazardous waste and should be swept up, bagged, and taken to a local household hazardous waste collection site.	
	Reuse paint thinner or cleaning solvents. Set aside in a closed, labeled jar to settle out paint particles, then pour off clear liquid for future use. Dispose of paint and thinner residue through the household hazardous waste program.	
	Save unused paint for future paint jobs or find someone who can use it Donate it to an organization that needs contributions or recycle it at a household hazardous waste collection facility.	
Driveways, walkways, and patios		
	Set up and operate small mixers on heavy tarps or drop cloths.	
	Never wash excess material from bricklaying or patio or driveway construction into a storm drain.	
	Collect and reuse excess gravel and sand.	
	Don't use your hose as a broom. Never hose down driveways, sidewalks, or streets into storm drains.	
	Apply driveway sealant when no rain is forecast. Sweep first to prepare and carefully follow the directions.	
	Try to minimize the use of impervious surfaces and slope such surfaces toward vegetated areas. (See landscaping section of this manual for additional information.)	

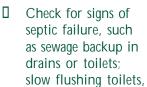
For more information, contact Clark County Public Works, Environmental Services at 397-6118, ext. 4345



failure of a septic system can cause serious prob-lems. Sewage can pond on the ground near the drainfield or back up into buildings. Animals and people may

become ill from contact with these discharges. Pollution from failing septic systems can contaminate ditches, creeks, and shallow drinking water supplies. In addition to public health concerns, it's costly to repair or replace the system.

Know the location of your septic tank, drainfield, and well. For assistance, call the Southwest Washington Health District, at 397-8428.



sinks, or drains; visible liquid on the surface of the ground near the septic system; lush green grass over the drainfield, even during dry weather; build-up of aquatic weeds or algae in lakes or ponds adjacent to your home; unpleasant odors around your house.



Divert other sources of water, like roof drains, house footing drains, and sump pumps to lawn areas away from the septic system. Excessive water floods the system, keeping the soil in the drainfield saturated and unable to adequately treat the wastewater.



Limit water entering the septic tank by using water-saving faucets, showers and toilets, spreading clothes washing over the week, minimizing the amount of water used for bathing and dish washing, and fixing leaking faucets and toilets. П Take leftover hazardous household chemicals to the hazardous waste collection center for disposal. Use bleach disinfectants and toilet bowl cleaner sparingly. Don't drive over or park on a drainfield Don't plant trees or shrubs on a drainfield. П Don't cover a drainfield with a hard surface such as concrete, asphalt, above ground pools or decks. The area should have only a grass cover. Don't overuse a kitchen garbage disposal. Solids can overload the system. Non-meat kitchen scraps can be composted. П Don't use commercial septic additives. These products usually do not help significantly and some may harm your system. Don't use your toilet as a trash can. Never flush coffee grounds, fat, grease or oil, condoms,, kitty litter, paper towels, sanitary napkins/tampons,

> Call the Southwest Washington Health District at 397-8428 for additional information about maintaining your septic system.

dental floss, disposable diapers, cigarette butts or hazardous chemicals down the drain. These items can overtax or destroy the biological digestion

taking place within your system.